

DISEASE PREVENTION

Q: I live in central Texas, what should I be vaccinating my horses for?

A: Work with your veterinarian to determine the best plan for vaccination of your horse. The American Association of Equine Practitioners (www.aaep.org) recommends core vaccine for all horses this includes vaccination against tetanus, Eastern and Western Encephalitis, West Nile Virus and rabies. Beyond that it really depends on your horses exposure to other horses and diseases that are local problem in your area. Occasionally Antrax is a problem in Texas. Again checking with your veterinarian on need to use specific vaccines beyond the core vaccines would be best as they would know what local disease situations would be.

Q: I had a neighbor whose horse had botulism. Can a horse get botulism from another horse?

A: Botulism is not a contagious disease meaning not a risk from horse to horse contact but if your neighbor's horse had botulism might mean risk of exposure is higher in your area. Would suggest you check with your veterinarian to determine if there has been problem with this disease in your area and what they recommend to protect your horse.

Q: At what age do I vaccinate my foal? And for what?

A: The American Association of Equine Practitioners (www.aaep.org) has guidelines for vaccination of foals. When to start vaccination depends on the vaccination history of the dam of your foal and varies by type of vaccine. The minimum is to vaccinate with core vaccines which include vaccines for tetanus, Eastern and Western Encephalitis, West Nile virus and rabies. Beyond that it depends on the exposure your foal will have to other horses and local diseases in your area. I would suggest you consult your veterinarian and also the AAEP guidelines for vaccinations.

Q: Do I still need to vaccinate for West Nile? How often?

A: Yes, vaccination is against WNV is still recommended for all horses. How often depends on the vaccine and the length of the mosquito season but at least once a year is indicated in all locations. If the horse has never been previously vaccinated then depending on the vaccine it may require more than one dose. Suggest you look at the AAEP vaccination guidelines at www.aaep.org.

Q: My horses drink out of a pond; how can I keep mosquitoes down?

A: There are certain fish that eat mosquito larvae. Check with your local public health office or extension office as they likely can tell you where you can get some.

Q: My horses never leave the farm, do I have to vaccinate?

A: Yes, there are certain diseases that can come to your horse even if it never leaves your property and no new horses come to your property. These are the core vaccines and include tetanus, Eastern and West-

ern Equine Encephalitis, West Nile virus and rabies.

Q: If my horses drink out of a stock tank, how often should I clean it? What should I use to clean it?

A: At least once a week as this will reduce occurrence of mosquito larvae maturing in the tank, just washing it out with water and a brush to scrub it should be adequate unless there have been sick horses drinking from the tank or there is feces in the tank.

Q: Is it okay to run my older horses with my weanlings?

A: That depends on the health status of your older horses.

Q: At the trail ride the horse next to me had diarrhea. What's the chance that my horse could get something from him?

A: Hard to say. Some horses get loose feces when they are stressed due to transport or in anticipation of working and this is just a physiologic condition not a contagious one. On the other hand there are bacteria that cause diarrhea in horses that is passed from horse to horse if they share a pen, eat from the ground where the other horse had diarrhea or drink from a water source that had feces in it.

Q: Where is West Nile most prevalent?

A: In 2008, as of June 24 there have only been 5 cases of WNV in the USA with those being in AR, FL, ND, and PR. If you want to check on status you can find info on equine cases at http://nsu.aphis.usda.gov/nahss_web/arbovirus_summary.faces. There have only been 13 human WNV cases as of June 24; to see locations you can go to http://diseasemaps.usgs.gov/wnv_us_human.html. If you want to see where there have been WNV-positive mosquitoes or birds you can go to http://diseasemaps.usgs.gov/wnv_us_bird.html or http://diseasemaps.usgs.gov/wnv_us_mosquito.html.

Q: How far apart should I keep a new horse from my other horses to consider it "quarantined"?

A: Good question, we are still learning about how far some contagious equine diseases can spread. The short answer is as far as possible. A separate barn or paddock is best. Some people recommend 35 feet but we have found that flu can spread up to 150 feet. Be sure to keep all equipment separate and people caring for the quarantined horse need to take precautions if they are to contact other horses as well.

Q: Is hand sanitizer as good as washing with soap and water?

A: Depends if your hands are soiled with feces, blood or other bodily secretions or not. If there is gross contamination on your hands then hand washing is always indicated. The alcohol based hand sanitizers did significantly reduce bacterial load on hands of veterinary students who had just completed an equine physical exam. So if you can wash your hands with soap and water and completely dry them this is likely optimal but if you do not have access to soap and water then the hand gels can help reduce bacterial load.

Q: How often should I wash my hands?

A: 1. When ever you are moving between horses that are kept separate 2. When ever you have worked on a horse that has a cough, diarrhea, skin disease, a fever or other signs it is sick 3. Before you eat (after working with horses) 4. After using the toilet 5. Whenever you have been in contact with horses other than your own

Q: What disease should I worry about the most when I'm hauling to a horse show?

A: Generally the main disease spread when horses come together at an equine event are those contagious disease agents such as influenza, herpesvirus or Streptococcus equi.

Q: If a horse stalled next to me has a cough, should I be worried? What preventive measures should I take?

A: Horses can cough because they have an infection but also because they have irritation in the airway from inhaled allergens. If you could find out if the coughing horse has a fever or is off his feed that would help determine how concerning this cough might be. Prevention would depend if this was a likely contagious disease or not and the best way to know is to have the coughing horse examined by a veterinarian who could then do tests to determine the cause of the cough.

Q: I helped our neighbors move cattle. Can my horse get anything from the cows?

A: There are not many diseases that spread from cattle to horses. The main one that I would be concerned about would be Salmonella. This is a bacteria that is in feces of both cattle and horses. The bacteria can cause diarrhea. If the cattle were healthy and not stressed then likely risk is low especially if your horse did not eat where the cattle had passed manure.

Q: I'm pregnant and take care of my own horses and have never had a problem; is there something I should worry about catching from the broodmares?

A: Best to check with your physician or public health office.

Q: How do you clean a round pen?

A: It's very difficult to impossible to disinfect a dirt surface if that is what you have in your round pen.

Q: Should we vaccinate by season, or should we be checking titers?

A: We really do not have enough data to direct vaccination in horses based on their titer for various diseases.

Q: Can my vet or farrier make my horses sick?

A: You could consider talking to your veterinarian and farrier about your goal of keeping your horses healthy and ask what they do to prevent moving disease agents from one farm to another.

Q: How long should a horse be kept in quarantine?

A: At least a week past the incubation time of diseases you are trying to exclude. Most people recommend 2 to 3 weeks.

Q: If my neighbors and I don't vaccinate their horses, is that a problem for mine?

A: I think you are asking if your neighbor does not vaccinate his horses is that a problem for your horses? IF so it depends how much contact your horses have with his and the exposure his horses have to outside horses.

Q: I travel and stay at overnight facilities. Would it be better to keep my horse in the trailer, or use their stalls/corrals for the night?

A: Depends if the stalls and corrals are cleaned and disinfected between uses and how well your horses tolerate being at your trailer. In general, you have more control over your own equipment and space than you do over that of facilities that are shared.

Q: My dogs go with me everywhere. Can they give my horses a disease?

A: Generally diseases that dogs get are not contagious to horses. It would be important to have your dogs vaccinated against rabies. There are some disease agents that dogs can carry that are shared with horses such as Salmonella bacteria that is carried in feces. Dogs can shed these bacteria in their feces or they may roll in feces then jump in the water tank to cool off thus inoculating it with these bacteria. Best thing is to keep your dogs healthy, clean up any feces they pass and discard it away from where your horses graze or eat their other feed.

Q: What are symptoms of diseases that I should be looking for in my horses?

A: This is a very big question and really too open-ended to answer well. The main thing I tell my clients is that you know your horse better than anyone and if he or she is not themselves then get your veterinarian out to take a look at them.

Q: We have mice in the barn where we board. The farm manager says “where there’s hay there’s mice, and not to worry about it.” Should I be worried about the mice?

A: Rodents can carry some disease agents that can make horses sick. It is difficult to keep horse premises free of rodents. Keeping a minimum amount of feed stored in the barn where horses are stabled can reduce the rodent burden and protecting concentrate feed from rodents by storing in sealed containers can reduce the risk.

Q: Money is tight, what are the absolute necessary vaccines that I need to give my horses?

A: The core vaccines are those used to help protect horses against tetanus, Eastern and Western Equine Encephalitis, West Nile Virus and Rabies because these are diseases that can affect your horse even if it never leaves home, that cause serious disease and for which we have relatively safe and effective vaccines. Vaccination of horses for other diseases is dependent on their exposure and geographic location.

Q: If I suspect that my horse has a disease, at what point should I call my vet?

A: As soon as you suspect there is a problem as the earlier the veterinarian can examine the horse and determine the cause the sooner there can be a plan to keep it from spreading to other horses if it is a contagious disease and the sooner your horse can receive treatment.

Q: Should I be testing my horse for anything on a regular basis?

A: One infectious disease we test for regularly is equine infectious anemia or EIA. It would be good to periodically test for the effectiveness of your parasite control by having feces from your horse tested for parasites by your veterinarian. Beyond that it depends on your horses use, past medical history and exposure to other horses.

Q: I have an arabian mare 6yr old who has guttural pouch mycosis. She has been through the surgeries to

close off the blood vessels. My continued worry is that whatever caused her to succumb to the aspergillus fungus is still present and or that there might be an overly high amount of such on my premises. What can i do to provide the safest environment for her. i have 10x10 stalls with stall mats. Horses are inside about 8 hours each day and outside the other amount.

A: JTD: The spores of *Aspergillus*, a fungus, are ubiquitous in the horse's environment as these spores are in hay and straw even of the best quality so I do not know of a way you could eliminate exposure completely. The fungus is an opportunist and grows where there is a nutrient supply like blood. We actually grow it on blood agar in the lab. So my theory on guttural pouch mycosis is that there is initially a small defect in the artery wall and then the fungus grows on that small area of blood leakage. Once the fungus starts to grow then it further damages the vessel wall leading to severe bleeding that can be fatal if not treated. **BB:** Therefore by providing good quality hay and grain, a clean stall (and environment with good ventilation) and allowing her to spend over 12 hours outside you are providing a safe environment for her.

Q: How can one guard against infection from *Borrelia burgdorferi* (Bb)?

A: *Borrelia burgdorferi* is the causative agent of Lyme disease and is transmitted to horses when Ixodes ticks carrying this spirochete feed on the susceptible horse. Components of prevention of Lyme disease in areas where it is endemic include prevention of tick exposure, provision of early antibacterial drug treatment if known Ixodes tick exposure occurs or vaccination. i. Various insecticidal sprays can be used to prevent tick infection but most are not approved for use in horses and efficacy in horses is unknown. Per Dr. Tom Divers in a chapter in *Equine Infectious Diseases* book, no adverse effects are known to result from use of the more common canine tick sprays (e.g. fipronil; Frontline, Merrial, Duluth, Georgia) in the horse. Permethrin based insecticides are approved for horses but efficacy against ticks is not well documented. Spraying and close observation for ticks should be performed most diligently in the late summer, fall and early winter. ii. If ticks are found on the horse they should be examined and if determined to be Ixodes then consult your veterinarian on the need to treat the horse with antibacterial drugs effective against *Borrelia*. iii. Duration of protection, safety and efficacy of current canine vaccines are unknown at this time.

Q: My horse was recently evacuated because our area of northern CA was threatened by fire. Should I be concerned about possible exposure to EIA after he was stabled along with nearly 100 other horses for a week?

A: Good question. The risk is likely low as likely many of the other horses would have been previously tested based on show or other requirements but to be safe if you have your horse tested 6 to 8 weeks after any possible exposure and test is negative should not have to be concerned based on that exposure to other horses during evacuation.

Q: I live in south Texas, and vaccinate my horses for West Nile every year. My 20-year-old gelding is becoming arthritic in his hocks, is stiff and drags his toes a bit. I had him on a joint supplement and he felt much better, but the mosquitoes would not leave him alone. I used different sprays and wipes but they kept after him till he looked like he had hives. When I stopped the med. (the only thing he gets that is different from my other horses) the bugs went away. I tried it again and the same thing happened. My question is: What is more relevant to his quality of life: Comfort from the arthritis or limiting mosquito bites.(WN) ?

A: I have not heard of arthritis meds making horses more appealing to mosquitoes but I guess based on your experiment it is possible that is what you were observing in your aged horse. If your horse is vaccinated against WNV he likely is protected against that disease even if he gets bitten by mosquitoes

unless he does not make a good response to the vaccine for some reason. We did find in a study we did at CSU that older horses e.g. those over 15 years of age were less likely to make an antibody response to the Fort Dodge WNV vaccine. This does not necessarily mean they would get the disease if exposed to WNV as there may be other mechanisms of protection but the results of this study do make one more concerned about older horse's response to this vaccine. To my knowledge no one has looked at response in older horses to the other two commercially available WNV vaccines (canary pox-WNV recombinant vaccine or Yellowfever-WNV Cimera vaccine). I would have some concern that he might be bothered by mosquito bites even without the WNV exposure risk if he is getting hives. Is there any way to check with your veterinarian to see if your horse might be able to receive a different treatment for the arthritis and maybe then he would not be a mosquito magnet? It would also be important to be sure your horse is vaccinated against Eastern and Western Equine Encephalitis as these viruses are also carried by mosquitoes.

Q: I show during the spring and summer season and wanted to know how I can safeguard my horse before putting him in a wooden, concrete or metal stall that could have contained a sick horse the weekend before - without burning his lungs from dousing the stall with bleach?

A: Cleaning is most important so being sure all left over bedding is removed is the first step, then physically scrubbing stall surfaces with soap and water followed by rinsing will remove about 90 to 95% percent of the bacteria and viruses. However the only way to inactivate the other 5 to 10% of the disease agents not removed by cleaning alone is with a disinfectant. Options are mentioned in articles on the horse that are mentioned in the webinar, One is Bye Bye Bad Bugs (Article # 10683). It is important to follow all label recommendations regarding effectiveness and safe handling of disinfectants and information regarding how long you need to wait before putting the horse into the stall. Other option is depending how long the show is keeping your horse at your trailer or in your own portable stalls is something some folks have done. Be sure to use your own water buckets and not share tack.

Q: I understand that a test is now in place to confirm that a horse has this mutated neurological version of EVH-1. How available is the test, in other words, can any vet do it? Or regular lab? Also....best practices to prevent EVH-1 from arising on your farm, and the best practices, along with quarantine, to limit it in the circumstances that it does arise on your farm.

A: JTD: Most equine veterinarians could collect the samples to test for EHV-1 and most veterinary diagnostic labs could do testing for EHV-1 in a sample but not all veterinary diagnostic laboratories do the test to differentiate the neuroathogenic EHV-1 variant from the EHV-1 wild type or non-neuroathogenic type. There are however several labs in the USA that do the testing to distinguish the variants of EHV-1 and generally a local veterinary diagnostic lab could direct the veterinarian which labs can do this testing. Regarding how to keep EHV-1 from arising in horses on your farm. Since most horses have been exposed to EHV-1 by the time they are yearlings and many harbor the virus in a silent or latent form it is difficult to recommend complete elimination strategies. However if you try to minimize stress in your horses and those on your facility this potential could reduce the risk the virus would come out of its latent form and reactivate. If you monitor for infectious diseases by taking temperatures of horses that are newly arrived and on those that have left the facility and returned and have your veterinarian promptly examine any horses to your facility if a fever or other signs of disease occur so the cause can be determined this would reduce risk of spread of the disease as then control options could be put in place if EHV was detected. BB: The current vaccines on the market for EHV-1 are not labeled or licensed for prevention of the neurologic form of EHV-1 however if horses were kept on a regular vaccination program against EHV-1 this management may and I emphasize may, reduce the number of horses that shed the virus and thus reduce the scope of an outbreak if a first case of disease was detected. If a horse was identified with the neurologic form of EHV then keeping that horse isolated from other horses along with implementing biosecurity practices for personnel would be

indicated as there is evidence that this disease is contagious and can spread to other horses.

Q: Eastern equine encephalitis (EEE) is very much in the recent news, particularly in Florida. Is this disease “on the rise” more so than in the past, and, if so, is it a result of non-vaccination, increased range/number of vector mosquitoes, or a combination of factors? What is the effectiveness of available vaccines? How does my geographic location within the continental United States affect whether my horse is at risk?

A: Cases of EEE in horses are higher this year than in previous 2 years in Florida. Most disease occurs in nonvaccinated horses. There have been recent press releases to the equine industry in Florida to implement vaccination against EEE if they have not done so already. Most of the EEE vaccines are considered very effective and should be given to all horses even if they never leave their home premises as exposure to EEE is through the bite of an infected mosquito. Horses can not spread this disease to other horses through direct contact and are not a source of EEE virus to mosquitoes. Birds are the source of EEE virus for mosquitoes. Even though vaccines are very effective it is a good idea to do mosquito mitigation as well to reduce risk of exposure to infected mosquitoes. The AAEP has recommendations related to dosing of EEE vaccines at http://www.aaep.org/vaccination_guidelines.htm. The AAEP recommendations for vaccination of foals of mares vaccinated against EEE/WEE in the pre-partum period. Administer a primary three-dose series beginning at 4 to 6 months of age. A 4 to 6-week interval between the first and second doses is recommended. The third dose should be administered at 10 to 12 months of age prior to the onset of the next mosquito season. In the southeastern U.S., due to earlier seasonal disease risk, vaccination may be started at 2 to 3 months of age. When initiating vaccinations in younger foals, a series of 4 primary doses should be administered, with a 4-week interval between the first and second doses and a 4-week interval between the second and third doses. The fourth dose should be administered at 10 to 12 months of age prior to the onset of the next mosquito season. Foals of unvaccinated mares or having unknown vaccinal history. Administer a primary 3-dose series beginning at 3 to 4 months of age. A 4-week interval between the first and second doses is recommended. The third dose should be administered at 10 to 12 months of age before the onset of the next mosquito season. If you want to see the reports on occurrence of EEE in horses in the USA you can go to the following website at <http://www.aphis.usda.gov/vs/nahss/equine/ee/index.htm>.

Q: Before I added a new horse to our herd of 5 last year, I quarantined her off-farm for about 40 days and saw no symptoms of illness. Still, after she joined the herd, two of the resident horses contracted strangles within 60 days (and recovered, thankfully). We assume it was the new horse that brought it. What else could I have done to prevent the infection?

A: Options for reducing the risk of introduction of strangles by horses that appear clinically normal even through an isolation period would include asking about her previous health history including if she had strangles or if other horses she had been exposed to had strangles. If there is a history of strangles or her medical history is unknown screening her to determine if she was shedding these bacteria is an option. Some farms screen all new arriving horses for the bacteria that causes strangles even if they have no history of strangles but the test is not inexpensive so most people employ it when there is a reason to suspect a potential problem. There is a test to detect silent shedders of the causative agent of strangles which is a bacteria called *Streptococcus equi*. The test is performed on fluid that is collected from the horse’s throat and nasal passage through a procedure called a nasopharyngeal wash. The fluid is then cultured for the bacteria but also tested using a procedure called a polymerase chain reaction or PCR. This PCR test is offered by a commercial laboratory called IDEX EBI as well as at a few University Veterinary Laboratories but not at all veterinary diagnostic labs. If the test comes back positive then the horse would need an endoscopic exam to determine where the infection was localized and subsequent treatment with antibiotics that are effective against this bacteria.

Q: You mentioned “other animals”, what other animals should I be worried about?

A: Depends on the disease we might be concerned about. For instance with rabies the concern would be contact of horses with raccoons, fox and skunk. Most of the respiratory disease agents horses get from other horses. Fecal organisms can be shared between horses and other animals such as birds, rodents, and other livestock.

Q: I would like to know how to best clean and disinfect my barn (wood stalls and a separate isolation unit of concrete stalls) during and after a strangles outbreak. I currently use a 1:10 dilution of bleach to water to disinfect and as a foot bath solution, but I have heard that using a quaternary cleaner like Pine-Sol is more effective. Is this correct or is there something else I should consider?

A: We would advise you to work with your veterinarian on coming up with a detailed plan on cleaning and disinfection of your facility and it really depends on the type of surfaces you have and the amount of contamination there has been of the environment. In general the most important step in reducing the bacterial load in the horse facility where strangles has occurred is to do through cleaning first. This is done through physical scrubbing with soap and water followed by rinsing then allowing the surface to dry. The surface needs to be nonporous to really get it clean. Cleaning likely reduces the bacterial load but does not totally remove or kill all bacteria so following cleaning with disinfection is important. If the surface is nonporous and very clean meaning no organic material remains then most disinfectants including bleach solution can kill *Streptococcus equi*. The problem is the many times surfaces in equine facilities are porous or impossible to completely clean and then bleach does not work so well. There are alternatives to bleach and these are discussed in a story from *The Horse* written by Dr. Dwyer. It is important that all label directions be followed for safety and in the label can help in selection of the most appropriate product. The webinar contains the stories from *The Horse* on cleaning and disinfection and if you want even more in depth information there is a detailed discussion on disinfection selection at the following website at Iowa State University www.cfsph.iastate.edu/brm/resources/disinfectants/disinfection101feb2005.pdf

Q: What is considered true horse quarantine? At the stable that I board, the requirement is 7 days, however the horses are almost nose to nose with other horses, separated only by a fence. Also, the stable allows the owners of the quarantined horses to go into the area and ride and interact with them. Doesn't seem very effective to me or am I wrong.

A: The duration and level of isolation or quarantine of horses from a contagious disease control perspective is dictated by the disease to be controlled. We mention several considerations related to isolation of new arrivals in the webinar. The options for isolation are dependant on the available facilities and personnel to implement them along with the level of risk management that those involved in decision-making wish to undertake.

Q: I have a friend in North Carolina whose vet no longer routinely recommends vaccinating against West Nile. What's up with that?

A: Although the number of reported equine WNV cases in the USA has decreased the virus is still a potential threat to horses in the USA and the American Association of Equine Practitioners include it as a core vaccine which would be indicated for all horses.

Q: Thank you for your time - how do you insure your horses won't get sick when they are boarded at a facility that refuses to use common sense, refusing to take precautions (such as not allowing other horses in stalls that are not their own, and not washing buckets and water troughs on a daily basis, to name just two) mainly because it takes more time and is inconvenient?

A: We mention several options for reducing risk of exposure of horses to contagious disease agents in the webinar. The decision to implement any of these is up to the individual horse owner or facility manager.

Q: My question, what are some of the disease prevention considerations for the small barn, small herd, owner as opposed to the professional training and breeding operations and what are some of the cost to horse owners?

A: The number of horses is not so much the determinant on what disease prevention considerations should be versus the exposure these horses might have to contagious and noncontagious disease agents. To my knowledge there are not existing cost-benefit analysis on prevention of various equine infectious diseases that have been published. You can certainly develop a budget that includes cost for various aspects of infection control you might consider implementing from vaccination through taking additional precautions that revolve around procedures for biosecurity.

Q: How can I reduce stress during hauling when I'm going to shows?

A: There has been research that would suggest that hauling horses with their rear end going in the direction of the vehicle allows them to balance better and reduces the stress to them. Allowing the horses to get their heads down to clear their airway every few hours can reduce the stress on the airway. Trying to be sure you haul horses that are as compatible as possible together to reduce pecking order or social stress maybe a consideration. Also trying to be sure the horse are kept in well ventilated housing and that they have consistent and clean feed and water.

Q: Should I be quarantining my horses when they come back from a show? For how long? How far from the other horses should they be kept? I have a small farm (just 5 horses) but I go to shows often.

A: We address some of the answers to your question in the webinar. It would be optimal to keep horses that have been to shows separate from the resident population for at least as long as the incubation of the diseases you are concerned about preventing. So optimally for 2 to 3 weeks and monitor their rectal temperature and look for signs of disease during this period. If you detect any signs your horse is sick then contact your veterinarian to determine the reason so that the most targeted action can be taken to prevent spread.

Q: Is there anything that I can do to boost my horse's immune system for when I do go to shows? Is there anything that I can give him?

A: You might ask your veterinarian about this as they would be in the best position to know if your horse's nutritional needs are being met and how stressful the showing your doing might be. There are some immunostimulants marketed for horses for the purpose of reducing respiratory disease associated with long distance transport or in very stressful situations but in general these are not given on a routine basis as the body can normally respond adequately without such immunostimulation.

Q: What type of spray can I use to keep mosquitoes away from my horse? Are the dunks safe to use in water tanks? How often should I be vaccinating for West Nile? (I live in Ohio).

A: The recommendation is to use sprays that contain pyrethroid compound (such as permethrin and that are labeled for use on horses. It is important to follow all label directions for indication for and safe use. To my knowledge people have used the mosquito dunks in horse tanks to control mosquito larvae development without recognized side effects but read the labels and you can also control mosquito development by simply emptying and cleaning buckets and water tanks at least once weekly. There are

guidelines of WNV vaccination at the AAEP website at http://www.aaep.org/vaccination_guidelines.htm in your area where there would be winter kill of mosquitoes a booster each spring should be adequate. Be sure to work with your veterinarian as if your horses have never been previously vaccinated then depending on the vaccine there may be a need to give multiple doses in the initial series.

Q: We often received shipped semen for our broodmares, how do we know if it's disease free. Can we request the stallion owners to do some type of testing? How accurate is that? What should I do to protect my mares?

A: You could request that the stallion from which the semen is collected have a breeding soundness exam which would generally include testing the stallion to see if he is shedding an equine viral arteritis in his semen or not. The initial screening test is based on collection of a blood sample and then if there is evidence in that blood sample of antibodies to EVA then semen would need to be tested for the virus. There are guidelines on EVA at the AAEP website and information on EVA and its control at the USDA website. (www.aaep.org and <http://www.aphis.usda.gov/vs/nahss/equine/eva/index.htm>)

Q: How long before I plan on taking my horse off the farm should I vaccinate him?

A: a. depends on the disease you are trying to prevent and how many doses of the vaccine need to be given prior to an optimal immune response. Your veterinarian would be in the best position to advise you on this but in general you would want to booster most vaccines 2 to 3 weeks prior to your departure.

Q: Does it harm a horse to give him Tetanus shots twice per year when I understand it is only necessary for 1 p/year? The reason for my question is that my vet gets the 5 in 1 shots and does not carry the Tetanus separately in the field, so when I vaccinate my horse 2 p/year he has been getting the tetanus as well.

A: To our knowledge there have not been major adverse side effects from giving tetanus toxoid more often than once a year however any time you give vaccines there is some risk for adverse reactions and it is optimal to only vaccinate when you need to.

Q: I have an older horse, 16 yrs old, that was diagnosed with strangles from blood titers, even though he has been vaccinated regularly his whole life. A guttural pouch wash was done also at a later date and no evidence of strangles remains. Now, should I vaccinate for strangles or never vaccinate him for strangles. I also have a 4 yr old, prior to me buying her, apparently had a negative reaction of some sort to the nasal strangles vaccination when she was vaccinated between a few months old to 2 years old. She had either 1 or 2 strangles vaccines total, should I vaccinate her or not?

A: There is information related to strangles and its control at the ACVIM website at http://www.acvim.org/uploadedFiles/Consensus_Statements/Strangles.pdf. The only blood test I am aware of related to strangles is a test that detects antibody to the bacteria that could be due to infection but also could be there due to previous infection that has resolved or due to vaccination. So I am not sure from your description what blood test was done and what the specific result was so it is not possible to assist in answering your question about vaccination. Your veterinarian would be in the best position to assist with interpretation of the test and examination results and the consensus statement from ACVIM provided above can give you background information to assist you in communication and dialog with your veterinarian.

Q: Can you say a little about hygiene, and in particular the disposal of effluvia from a sick horse?

A: There are multiple points about hygiene in the webinar that hopefully will be of interest to you. The

definition of “effluvia” I found was mysterious emanations so I am not sure what you are asking about here?

Q: Can I carry WNV to my horses myself?

A: No, WNV exposure in horses is through the bite of an infected mosquito.

Q: Can I or other animals I have catch a disease from my horse?

A: There are very few infectious diseases that horses can give to people but there are some. Examples of some of the ones that would be of most concern would be rabies and salmonella. You can keep your horse vaccinated against rabies to reduce the risk from this disease and being sure to wash your hands after handling your horse and before eating can reduce your risk of exposure to Salmonella.

Q: How can I clean my automatic waterers?

A: Manually scrubbing out the water bowl with a clean brush using plain water is usually adequate unless the horses have been sick then you need to check with your veterinarian on the optimal way to clean and disinfect this surface.

Q: What can be done to prevent leptospirosis in horses?

A: Limiting exposure to stagnant water and to potential carriers, such as cattle, swine, rodents and wild-life, may help to control leptospirosis. One source (Equine Infectious Diseases textbook) suggests not feeding your horses on the ground. Keep your feed in a container with a lid and away from rodents and wildlife. Infected animals should be isolated and contaminated areas cleaned and disinfected.

Q: I saw lots of cows in the video, there are cows in the next field from my horses. Is there any diseases I need to worry about from the cows (actually steers)?

A: If the steers are healthy and the contact with your horses is minimal not too much to worry about. There are some fecal bacteria that can be shed by cattle that can infect horses but most of the time this is not a major problem unless the cattle or horses have stressors that make them more likely to shed and be susceptible to this bacteria.

Q: We're having a bad tick season here. What can I do to avoid getting tick-borne diseases? I try to pick them off, but some are really small. Also, what's the best way to pull off a tick so I get the mouth and don't get some diseases myself?

A: Since this is a question about control of ticks on you not your horse I would suggest you contact your physician or public health office for advice.

Q: Should I worry about any/all diarrhea?

A: It depends on the cause of the diarrhea. Some horses get loose feces (diarrhea) when they are stressed (i.e. shipping or anticipation of working or showing). In this case it is just a physiologic condition and the horse otherwise appears normal. If the horse has diarrhea and is depressed, does not want to eat and has a fever then you need to be concerned. This means that the diarrhea may be due to a contagious or infectious cause. In this case contact your veterinarian.

Q: What are the best disinfectants to use in my barn that are safe for horses? Is Chlorox good?

A: I would direct you to two articles in The Horse written by Dr. Dwyer that discusses the use of disinfectants we mention these articles on a slide in the webinar as there are advantages and limitations with each of the various disinfectant products. It is important to use the products according to the label directions and use all recommendation regarding safe use.

Q: If I'm bringing a new horse into my herd, what is sufficient separation?

A: This question is answered in the webinar and is a good question. We are still learning about how far some contagious equine diseases can spread. The short answer is as far as possible. A separate barn or paddock is best. Some people recommend 35 feet but we have found that flu can spread up to 150 feet. Be sure to keep all equipment separate and people caring for the quarantine horse need to take precautions if they are to contact other horses as well.

Q: Why the big deal about a Coggins test when a horse could (potentially) be bitten by a mosquito and infected shortly after testing negative?

A: Equine infectious anemia is the disease for which we do the Coggins test. Horses are exposed to EIA by being bitten by large biting flies that have previously fed on an infected horse not through mosquito bites. The idea of implementing the testing of horses for EIA is it is a persistent infection and these horses can serve as a source of the virus to other horses if they are within the area where insects could feed on both the infected and susceptible horse. The use of the testing is to reduce the incidence of the disease on a population basis.

Q: Besides flies and mosquitoes, what other insects can carry disease to my horses?

A: Various types of flies and mosquitoes are the main ones but ticks and emerging aquatic insects can carry some diseases as well.

Q: Which vaccines should I use in Michigan?

A: You should work with your veterinarian on making a decision on which vaccines to use on your horses. We mention in the webinar there are some core vaccines that are recommended for all horses including those used to prevent tetanus, Eastern and Western Equine Encephalitis, West Nile and rabies beyond that the need for other vaccines is dependent on multiple factors and your veterinarian would be in the best position to assist you in this decision. If you want to view the guidelines on vaccination from AAEP you can do so at www.aaep.org then click on guidelines for vaccination.

Q: I haven't heard much about West Nile Virus lately, is it still a problem? I vaccinated my horses a couple of years ago, so does that give them any protection?

A: The duration of immunity from WNV vaccination has been determined to be about a year beyond that we do not know. WNV is still active although the occurrence of WNV in horses has declined this is likely impart due to frequent use of the WNV vaccine. The AAEP still recommends annual vaccination against WNV for all horses.

Q: If a stall at a show was contaminated previously, will using Creolin on the walls and the floor help?

A: Sorry I am not familiar with the product you mentioned. There are some good tips related to cleaning and disinfection of stalls in the slide in the webinar these were articles written by Dr. Dwyer.

Q: My horse has had really bad vaccine reactions in the past. Is there any way I can give fewer

vaccinations or do something to help her avoid getting stiff and bumpy?

A: Consult with your veterinarian. It is important to give the core vaccinations, which are listed on the AAEP vaccination guidelines (www.aaep.org). There are several vaccinations that are combinations of 2 or more antigens - administering one of these products may help to reduce the number of times your horse has to be injected.

Q: If I'm giving my horse a bath at the show with the "community" hose, is that bad?

A: If the hose does not go into the horse's mouth not much of a concern from the bath. Would be good to clean your hands after you handle common use items like this hose before you feed or groom your horse to reduce risk.

Q: Once an animal has been exposed and cycled through a bout of strangles, is there any point to immunizing?

A: Good question and not an easy one to answer. If your horse had laboratory confirmed infection with *Streptococcus equi* then he likely would not need to be vaccinated in the near future but how long his resistance to this disease will last varies. There is a consensus statement on strangles from the ACVIM you may find of interest in addressing your question. Website is http://www.acvim.org/uploadedFiles/Consensus_Statements/Strangles.pdf and I would recommend you consult with your veterinarian on the risk of disease exposure versus benefit of vaccination against this disease.

Q: can I vaccinate my horses myself to save money? Things are really tight right now.

A: I would advise you to go through your veterinarian to get the best advice on which vaccines to use and to be sure the vaccines you get for your horse have been handled properly regarding keeping that appropriate temperature till use etc.

Q: can shipped semen (cooled or frozen) cause disease? Is it better or worse than live cover?

A: Any semen can potentially cause disease. To ensure that the semen is disease free you could request that the stallion from which the semen is collected have a breeding soundness exam which would generally include testing the stallion to see if he is shedding a equine viral arteritis in his semen or not. The initial screening test is based on collection of a blood sample and then if there is evidence in that blood sample of antibodies to EVA then semen would need to be tested for the virus. There are guidelines on EVA at the AAEP website and information on EVA and its control at the USDA website. (www.aaep.org and <http://www.aphis.usda.gov/vs/nahss/equine/eva/index.htm>).

Q: I bought a horse that ended up having WNV. The University of Wisconsin (Madison) said that she had lesions throughout her spine, thoracic cavity and neck. What would cause the internal lesions?

A: I am not sure as WNV tends to have a tropism for nervous tissue (spine and brain tissue) I guess the horse may have had injuries or trauma from being recumbent but it is hard to say without more detail on what the lesions were. You might ask your question of the pathologist who did the necropsy at the University of Wisconsin.

Q: I wear the same boots to the barn each day to clean stalls. They're the tall rubber ones. They get really nasty, and I set them out in the sun to dry in the summer. 1) can they cause disease 2) how can I clean them?

A: The sun and drying likely does have some effect to reduce the load of microorganisms but best would be to wash them with soap and water in an area where the material you clean off will not be available to your pets and not be in contact with your horses or their feed and water. If your horses are healthy I am not sure there is a need to use a disinfectant beyond the cleaning by washing with soap and water.

Q: how long can a contagious disease live on my hands or on a hose or bucket or the vet's hands or the farrier's tools etc?

A: It depends on the organism. Some survive a long time while others only a short time. Thus it is important to wash your hands or use an alcohol based hand sanitizer and to disinfect equipment on a regular basis.

Q: You mentioned wringworm...what's that?

A: Ringworm is a fungal skin disease.

Q: How long can a virus live on the property?

A: It depends on the type of virus and the environment (temperature, humidity, etc).

Q: how long should a new horse be separated from the herd?

A: The length of time depends on the disease to be controlled. In the webinar several considerations related to isolation of new arrivals is mentioned.

Q: I just have a run-in shed and no stalls. How can I "isolate" a horse that has a fever?

A: If you do not have a separate run in shed with a paddock that is away from the other horses you really can not isolate a sick horse because you have to get the physically away from the other horses.

Q: I have been to many many shows that did NOT check Coggins when it is stated that it was required to enter any class. What do you think about this and do you think it will eventually lead to any problems?

A: It is not possible for me to say how many horses had the test even though the paper work was not checked so it is not possible for me to speculate on what the consequences of not checking would be. You could share you question with the show organizers and see what their response to your question is.

Q: You touched on something that really ticks me off! I vaccinate and take really good care of my horses, but my neighbor I don't think ever vaccinates! Is there anything I can do? We share a fenceline, and I can't afford to put up another fence!

A: Only things I could suggest I mentioned in the webinar.

Q: If I notice my horse coughing in the field with a bunch of other horses and he's running a fever, is it too late to separate him out and protect the other ones?

A: No it is not too late to separate him, but remember all of the other horses have probably been exposed. There is more detail in the webinar about this scenario.

Q: We hear a lot about human diseases becoming resistant to antibiotics. Is the same true for horses? How can we avoid that?

A: There is not active surveillance regarding how much antibiotic resistance occurs in equine pathogens on beyond what might be available to individual veterinary practices or veterinary diagnostic laboratories. Working with your veterinarian to determine when antibiotics are needed and more importantly when they are not needed is the best way you can be a good steward of antibiotics.

Q: I go ride in an indoor at another farm several times a week, and also to a local park. There's lots of different horses in and out of these places. What steps can I take to keep my horses from getting sick?

A: A similar senerio is discussed in the webinar. One important way to prevent your horse from getting sick is to not let him have nose to nose contact with other horses. Also make sure he has been appropriately vaccinated (see AAEP vaccination guidelines and discuss the best vaccinations for your horse with your veterinarian).

Q: Rabies vaccine not routine in my area. How might it be spread besides by a bite? (Saliva, waterers, nose to nose contact?)

A: The main way rabies is spread from an infected animal to a susceptible animal or human is through a bite. Most rabies cases are in wild animals including skunks, foxes, raccoons and bats and these animals spread the virus to domestic animals through a bit as I mentioned above.

Q: You had mentioned antibiotic use may cause diarrhea - would use of probiotics help in this situation to return flora to the gut?

A: There are some studies that suggest these products may help and others that indicate they do not so not a clear-cut answer on this.

Q: What's that disease that makes foals get really bad diarrhea? I bred my mare this year and a friend of mine said she lost a foal to it, but I can't remember what it was. Help?

A: There are several disease that can cause diarrhea in the foal. The most common are Clostridium, Salmonella and Rotavirus.

Q: You mentioned several times that you should take your horse's temperature regularly. My horse hates that. How can I get him to let me? Is there any other way to take it (like the kids' ear thermometer).

A: No there is no other way to take your horses temperature. Hopefully if your are persistant (and maybe try some treats) you can get your horse to tolerate the procedure.

Q: I am a little concerned about the manure remaining in paddocks, although the paddocks are dragged 1 per week, is it an acceptable practice to simply drag the paddocks as opposed to removing the manure and any concerns with risk exposure?

A: Dragging paddocks and pastures does break up the manure piles and allow the feces to dry out and this may make the feces less appealing to insects and solar activity may reduce the organisms but if there is a disease agent in the feces then it may spread these around as well. I think that optimal is to remove the feces if possible.

Q: Horses recently came to my barn that had scratches. My horse never has had this disease before, but he has now developed it in his lower legs. Is this contagious and how can I cure it... Thanks

A: There are lots of causes of the condition called scratches I would suggest you have your veterinarian

examine your horses and can assist in determination of the cause in your horse.

Q: Can foals get west nile virus? What are the symptoms?

A: Yes, foals can get West Nile virus but very few cases have been reported. It is important to vaccinate the foal according to the AAEP vaccination guidelines and also to make sure the mare is vaccinated appropriately prior to foaling.

Q: we had a bad storm in my area that took out some trees and fences and all the horses in the area were found together with my horses. Should I be worried about anything or take any special precautions? (this happened about a week ago and so far everyone seems fine)

A: Good that they all seem fine now. I would suggest you take your horses rectal temperature daily for a total of 10 to 14 days from when the mixing happened and also watch for snotty noses or coughs. If any horse gets a fever or other signs they are sick consult your veterinarian.

Q: You keep saying not to drive to the barn, but the vet and farrier always drive to the barn. And my guess is they've been around more sick horses than anyone else, but I'm sure they won't want to park and walk to the barn to take care of my horss. Suggestions?

A: I think driving to the barn is fine but parking outside the barn or horse housing area would be optimal from an infection control perspective if these service providers have been to other equine facilities where horses are sick. There would be options to clean vehicles at car wash or use other methods to decontaminate tires if there is a perceived risk.

Q: I see the sponsor of tonight's seminar says the West Nile Virus vaccine they have protects in one dose...is that true?

A: The WNV chimera vaccine from Intervet has protected horses from WNV challenge with a single dose. You can see the AAEP vaccination guidelines related to the number of doses in the initial series for WNV vaccination where all the available vaccines are discussed.

Q: We had a horse who died with a guttural pouch infection. The culture was strep equi - is this strangles? She had no other symptoms of strangles.

A: Yes Streptococcus equi is strangles.

Q: Regarding disinfecting a stall, how effective is a bleach solution?

A: Prior to applying any disinfectant it is important to reduce the bacterial load by thoroughly cleaning first. This is done through physical scrubbing with soap and water followed by rinsing then allowing the surface to dry. The surface needs to be nonporous to really get it clean. Cleaning likely reduces the bacterial load but does not totally remove or kill all bacteria so following cleaning with disinfection is important. If the surface is nonporous and very clean meaning no organic material remains then most disinfectants including bleach solution are effective. The problem is the many times surfaces in equine facilities are porous or impossible to completely clean and then bleach does not work so well. There are alternatives to bleach and these are discussed in a story from The Horse written by Dr. Dwyer. It is important that all label directions be followed for safety and in the label can help in selection of the most appropriate product. The webinar contains the stories from The Horse on cleaning and disinfection and if you want even more in depth information there is a detailed discussion on disinfection selection at the following website at Iowa State University www.cfsph.iastate.edu/brm/resources/disinfectants/

disinfection101feb2005.pdf.

Q: Can fans in the summer contribute to the spread of disease in a barn?

A: This is a good question and we do not know the answer. Fans are beneficial because they help to keep insects away and help to improve ventilation.